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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/937,309

01/04/2002

Walter Kulovits

R.37564

7886

2119

7590

03/10/2004

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EXAMINER

HWU, DAVIS D

ART UNIT

PAPER NUMBER

3752

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/937,309

Applicant(s)

KULOVITS ET AL.

Examiner

Davis Hwu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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Response to Communication

1. Applicant's communication of February 25, 2004 is acknowledged and entered as paper number 8.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Regueiro in view of Imura et al.

The patent to Regueiro discloses a fuel injection valve for internal combustion engines comprising a valve body part having a longitudinal axis and in which a central hollow chamber 44 is embodied, means 28 disposed in the hollow chamber that transmits a force to a valve member 26, and an inlet conduit 51 which extends in the wall of the central chamber 44 parallel to the longitudinal axis of the valve body part, and by way of inlet conduit, fuel at high pressure can be delivered to at least one injection opening 50. Regueiro does not disclose the inlet conduit in the circumferential direction having a greater length than in an at least approximately radial direction. The patent to Imura et al. teaches a fuel delivery system comprising a rectangular fuel delivery passage 1. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the device of Regueiro by providing an inlet conduit which in the circumferential direction has a greater length than in an at least approximately radial direction as taught by Imura et al. since Imura et al. teaches that such fuel passage shapes are known in the art and the device of Regueiro would function

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properly with a fuel passage having such a shape. Regarding claims 9-11, the conduit having an oval or elliptical cross section would have been an obvious matter of design choice since such a modification would have involved a mere change in the shape of a component, which is generally recognized as being within the level of ordinary skill in the art. In this case, the fuel passage of Regueiro and Imura et al. would still carry out the function of delivering fuel regardless of the cross-sectional shape. It would have been obvious to one having ordinary skill in the art at the time the invention was made that the limitations of claim 10 would be met if the fuel passage is oriented accordingly.

4. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Regueiro and Imura et al. as applied to claim 8 above, and further in view of Muzslay. The patents to Regueiro and Imura et al. disclose the instant invention except for the method of plastic deformation. The patent to Muzslay teaches the process of plastic deformation in order to shape a tube of a fuel injector. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have reduced the diameter of the valve body of the device of Regueiro and Imura et al. as taught by Muzslay since Muzslay teaches that such methods are known in the art and the device of Regueiro and Imura et al. could be formed with this method. Since Regueiro and Imura et al. disclose all of the structural limitations of claim 12, the other method steps are inherent to the device of Regueiro and Imura et al. The use of steel as recited in claim 13 and the rolling process as recited in claim 14 are obvious matters of design choice in choosing the particular material and method for making the device of Regueiro and Imura et al.

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5. Applicant's remarks have been fully considered, however, they are not found to be persuasive. It is agreed that Imura et al. teach a fuel delivery rail assembly having rectangular fuel delivery conduit, however, since this conduit is also a fuel delivery passage, it would have been obvious to one having ordinary skill in the art to make the fuel delivery passage of a fuel injector to be of a rectangular shape through the teaching of Imura et al. This fuel passage could be oriented so that the circumferential direction has a greater length than in an at least approximately radial direction since this involves only the orientation of the passage and will not in any way affect the flow characteristics of the fuel. The conduit having an oval or elliptical cross section would have been an obvious matter of design choice since such modifications would have involved a mere change in the shape of a component, which is generally recognized as being within the level of ordinary skill in the art, since such a cross-sectional shape also would not affect the flow characteristics of the fuel.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davis Hwu whose telephone number is 703-305-1663. The examiner can normally be reached on M-F 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Y. Mar can be reached on (703)308-2087. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0861.



Davis Hwu